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EXAMINER

ROCHE, TRENTON J

ART UNIT PAPER NUMBER

2193

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/754,093

Applicant(s)

HISATAKE, DERRICK I.

Examiner

Trenton J. Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-15,17-22,24-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-15,17-22,24-29 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This office action is responsive to communications filed 16 September 2005.
2. Per applicant's request, amended claims 1, 9, 10, 18 and 25 have been entered. Claims 1-6, 8-15, 17-22, 24-29 and 31 are currently pending.
3. Claims 1-6, 8-15, 17-22, 24-29 and 31 have been examined.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 9, 18 and 25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 9-15, 18-22, 25-29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,055,632 to Deegan et al in view of U.S. Patent 6,070,012 to Eitner et al., further in view of U.S. Patent 6,467,088 to alSafadi et al.

Regarding claim 1:

Deegan et al teach:

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- receiving, at a network device, an upgrade package (“receiving the firmware upgrade at a communication daughterboard of the programmable controller system...” in col. 3 lines 22-24)
- over a computer network sent from a client device, the upgrade package including upgrade software (“transferring the firmware to the non-volatile memory of the programmable controller system by way of the remote network connection.” in col. 3 lines 3-5)
- determining upgrade information for a peripheral device installed in the network device (“the processor module 20 determines whether to load new firmware” in col. 6 lines 49-50)
- automatically upgrading internal software of a peripheral device installed in the network device (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28. Further, the process occurs automatically, “the processor module could determine on its own that new firmware is required...” in col. 6 lines 62-63)
- a packet header, the packet header containing instructions for the peripheral device for overwriting contents of software in the peripheral device with the appended contents, and by transferring the packet header and the upgrade software to the peripheral device by a connection (“transferring the firmware to the non-volatile memory of the programmable controller system by way of the remote network connection.” in col. 3 lines 3-5. A packet header is inherently part of the download package, as a packet header is part of any network communication.)

substantially as claimed. Deegan et al do not explicitly disclose the upgrade package including a flash erase file, and appending content of the flash erase file to a packet header. Eitner et al discloses in an

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analogous software upgrading system the aspects of appending contents of a flash erase file to a packet header for transferring across a connection, and using the appended contents as claimed (“downloadable image includes an operating system 408...Operating system 408 also includes peripheral system download (PSDL) module which controls the actual erasing and burning of target packs in flash memory” in col. 6 line 65 to col. 7 line 2. The downloadable image is considered to be a flash erase file, which is sent over a network, and as shown above, has a packet header. Further, the contents of the file (image) contain an operating system and application, which are the appended contents used for overwriting.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the memory erasing and burning technique of Eitner et al with the firmware upgrading system of Deegan et al, as this would be one of the “conventional non-volatile memory programming techniques” for burning firmware, which Deegan et al indicates may be used, as shown in col. 8 lines 50-53 of Deegan et al.

Deegan et al. further do not explicitly disclose upgrade information comprising a type and version, and determining if the update package is compatible with the peripheral device based on the upgrade information, and further upgrading the software if the package is compatible. alSafadi et al. disclose a system for controlling reconfiguration and upgrading of software or other components of an electronic device, wherein the system checks the upgrade as well as various components for type and version so as to determine compatibility of the upgrade in the system. (“The invention ensures that upgrades are compatible with the configuration of a given device...” in col. 2 lines 55-57. Further, “the reconfiguration manager first determines whether the requested upgrade, in this case version 2.0 of component A, is compatible with other components of device X, i.e., version 2.3 of component B and version 2.0 of component C” in col. 4 lines 27-31. The upgrade is then performed

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or not performed given the result, as indicated in Figure 2.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the upgrade compatibility checking of alSafadi et al. with the firmware upgrading system of Deegan et al., as this would assist with avoiding problems associated with inconsistent upgrades, as noted by alSafadi et al. in col. 2 lines 57-58.

Regarding claim 2:

The rejection of claim 1 is incorporated, and further, Deegan et al teach recognizing the received package as an upgrade based on information contained in the upgrade package (“the processor module must eventually...enter the special firmware upgrade mode...” in col. 7 lines 9-10. The fact that the system enters an upgrade mode means that the system has inherently recognized that the downloaded program is an upgrade, based on the contents of the file.)

Regarding claim 3:

The rejection of claim 1 is incorporated, and further, Deegan et al teach recognizing the received package as an upgrade package based on a filename extension associated with the package (Note rejection regarding claim 2. For the system to enter an upgrade mode, it must recognize the file as an upgrade, therefore inherently recognizes the file by checking the filename.)

Regarding claim 4:

The rejection of claim 1 is incorporated, and further, Deegan et al teach upgrading the internal software as claimed (“the firmware provider establishes a remote Ethernet link directly with the

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communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28.)

Regarding claim 5:

The rejection of claim 4 is incorporated, and further, Deegan et al teach upgrading the peripheral device as claimed (“enter the special firmware upgrade mode...” in col. 7 line 10. Further, the contents of the upgrade package are parsed into a format suitable for the device, as shown in col. 8 lines 22-36)

Regarding claim 6:

The rejection of claim 5 is incorporated, and further, Deegan et al teach issuing a command to the peripheral device as claimed (“enter the special firmware upgrade mode...” in col. 7 line 10. For the system to have entered an upgrade mode, it must have inherently received a command from the host computer notifying the device of an available upgrade.)

Regarding claim 9:

Deegan et al teach:

- a system comprising a computer network, a network device coupled to the network, a peripheral device installed within the network device; wherein the network device comprises a processor configured to receive over the network an upgrade package that includes upgrade software to update the peripheral device (Note Fig. 1 and 2, and further, “transferring the firmware to the non-volatile memory of the programmable controller system by way of the remote network connection.” in col. 3 lines 3-5)

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- determining upgrade information for a peripheral device installed in the network device
(“the processor module 20 determines whether to load new firmware” in col. 6 lines 49-50)
- the packet header containing instructions for the peripheral device to overwrite contents of software in the peripheral device (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28)
- transfer the packet header and the upgrade software to the peripheral device by a connection to automatically upgrade the peripheral device (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28. Further, the process occurs automatically, “the processor module could determine on its own that new firmware is required...” in col. 6 lines 62-63)

substantially as claimed. Deegan et al do not explicitly disclose the upgrade package including a flash erase file, and appending content of the flash erase file to a packet header. Eitner et al discloses in an analogous software upgrading system the aspects of appending contents of a flash erase file to a packet header for transferring across a connection, and overwriting contents of software with the appended contents as claimed (“downloadable image includes... peripheral system download (PSDL) module which controls the actual erasing and burning of target packs in flash memory” in col. 6 line 65 to col. 7 line 2. The downloadable image is considered to be a flash erase file, which is sent over a network, and as shown above, has a packet header. Further, the contents of the file (image) contain an operating system and application, which are the appended contents used for overwriting.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the memory erasing and burning technique of Eitner et al with the firmware upgrading system of

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Deegan et al, as this would be one of the “conventional non-volatile memory programming techniques” for burning firmware, which Deegan et al indicates may be used, as shown in col. 8 lines 50-53 of Deegan et al.

Deegan et al. further do not explicitly disclose upgrade information comprising a type and version, and determining if the update package is compatible with the peripheral device based on the upgrade information, and further upgrading the software if the package is compatible. alSafadi et al. disclose a system for controlling reconfiguration and upgrading of software or other components of an electronic device, wherein the system checks the upgrade as well as various components for type and version so as to determine compatibility of the upgrade in the system. (“The invention ensures that upgrades are compatible with the configuration of a given device...” in col. 2 lines 55-57. Further, “the reconfiguration manager first determines whether the requested upgrade, in this case version 2.0 of component A, is compatible with other components of device X, i.e., version 2.3 of component B and version 2.0 of component C” in col. 4 lines 27-31. The upgrade is then performed or not performed given the result, as indicated in Figure 2.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the upgrade compatibility checking of alSafadi et al. with the firmware upgrading system of Deegan et al., as this would assist with avoiding problems associated with inconsistent upgrades, as noted by alSafadi et al. in col. 2 lines 57-58.

Regarding claim 10:

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The rejection of claim 9 is incorporated, and further, Deegan et al teach a processor as claimed (Note Fig. 1 item 22, the microprocessor is installed on the remote device, which controls the upgrading of the firmware once it is downloaded to the system.)

Regarding claims 11-13:

The rejection of claim 9 is incorporated, and further, claims 11-13 are rejected for the reasons set forth in connection with claims 2-4, respectively.

Regarding claim 14:

The rejection of claim 13 is incorporated, and further, claim 14 is rejected for the reasons set forth in connection with claim 5.

Regarding claims 15:

The rejection of claim 14 is incorporated, and further, claims 15 is rejected for the reasons set forth in connection with claim 6.

Regarding claim 18:

Deegan et al teach:

- a computer-readable medium that stores computer-executable instructions (“a computer system...and...a plurality of programmable controller modules...” in col. 11 lines 64-66)
- recognize a received package as an upgrade package intended for a peripheral device installed in a network device, the upgrade package including upgrade software (“the processor module must eventually...enter the special firmware upgrade mode...” in col. 7 lines 9-10.

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The fact that the system enters an upgrade mode means that the system has inherently recognized that the downloaded program is an upgrade.)

- determining upgrade information for a peripheral device installed in the network device (“the processor module 20 determines whether to load new firmware” in col. 6 lines 49-50)
- the packet header containing instructions for the peripheral device to overwrite contents of software in the peripheral device (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28)
- transfer the packet header and the upgrade software to the peripheral device by a connection to automatically upgrade internal software in the peripheral device (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28. Further, the process occurs automatically, “the processor module could determine on its own that new firmware is required...” in col. 6 lines 62-63)

substantially as claimed. Deegan et al do not explicitly disclose the upgrade package including a flash erase file, and appending content of the flash erase file to a packet header. Eitner et al discloses in an analogous software upgrading system the aspects of appending the contents of a flash erase file to a packet header for transferring across a connection, and overwriting contents of software with the appended contents as claimed (“downloadable image includes...peripheral system download (PSDL) module which controls the actual erasing and burning of target packs in flash memory” in col. 6 line 65 to col. 7 line 2. The downloadable image is considered to be a flash erase file, which is sent over a network, and as shown above, has a packet header. Further, the contents of the file (image) contain an operating system and application, which are the appended contents used for overwriting.) It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to use the memory erasing and burning technique of Eitner et al with the firmware upgrading system of Deegan et al, as this would be one of the “conventional non-volatile memory programming techniques” for burning firmware, which Deegan et al indicates may be used, as shown in col. 8 lines 50-53 of Deegan et al.

Deegan et al. further do not explicitly disclose upgrade information comprising a type and version, and determining if the update package is compatible with the peripheral device based on the upgrade information, and further upgrading the software if the package is compatible. alSafadi et al. disclose a system for controlling reconfiguration and upgrading of software or other components of an electronic device, wherein the system checks the upgrade as well as various components for type and version so as to determine compatibility of the upgrade in the system. (“The invention ensures that upgrades are compatible with the configuration of a given device...” in col. 2 lines 55-57. Further, “the reconfiguration manager first determines whether the requested upgrade, in this case version 2.0 of component A, is compatible with other components of device X, i.e., version 2.3 of component B and version 2.0 of component C” in col. 4 lines 27-31. The upgrade is then performed or not performed given the result, as indicated in Figure 2.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the upgrade compatibility checking of alSafadi et al. with the firmware upgrading system of Deegan et al., as this would assist with avoiding problems associated with inconsistent upgrades, as noted by alSafadi et al. in col. 2 lines 57-58.

Regarding claims 19 and 20:

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The rejection of claim 18 is incorporated, and further, claims 19 and 20 are rejected for the reasons set forth in connection with claims 2 and 4, respectively.

Regarding claim 21:

The rejection of claim 20 is incorporated, and further, claim 21 is rejected for the reasons set forth in connection with claim 5.

Regarding claims 22:

The rejection of claim 21 is incorporated, and further, claims 22 is rejected for the reasons set forth in connection with claim 6.

Regarding claim 25:

Deegan et al teach:

- a port for coupling the apparatus to a network, a peripheral device installed in the apparatus, a processor (Note Fig. 1 and the corresponding section of the disclosure)
- the processor is configured to receive an upgrade package through the port, the upgrade package including upgrade software (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28)
- determining upgrade information for a peripheral device installed in the network device (“the processor module 20 determines whether to load new firmware” in col. 6 lines 49-50)
- the packet header containing instructions for the peripheral device to overwrite contents of software in the peripheral device (“the firmware provider establishes a remote Ethernet link

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directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28)

- transfer the packet header and the upgrade software to the peripheral device by a connection to automatically upgrade internal software in the peripheral device (“the firmware provider establishes a remote Ethernet link directly with the communication daughterboard, e.g., over the internet, and it is the firmware provider that conducts the firmware upgrade.” in col. 6 lines 24-28. Further, the process occurs automatically, “the processor module could determine on its own that new firmware is required...” in col. 6 lines 62-63)

substantially as claimed. Deegan et al do not explicitly disclose the upgrade package including a flash erase file, and appending content of the flash erase file to a packet header. Eitner et al discloses in an analogous software upgrading system the aspects of appending the contents of a flash erase file to a packet header for transferring across a connection, and overwriting contents of software with the appended contents as claimed (“downloadable image includes...peripheral system download (PSDL) module which controls the actual erasing and burning of target packs in flash memory” in col. 6 line 65 to col. 7 line 2. The downloadable image is considered to be a flash erase file, which is sent over a network, and as shown above, has a packet header. Further, the contents of the file (image) contain an operating system and application, which are the appended contents used for overwriting.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the memory erasing and burning technique of Eitner et al with the firmware upgrading system of Deegan et al, as this would be one of the “conventional non-volatile memory programming techniques” for burning firmware, which Deegan et al indicates may be used, as shown in col. 8 lines 50-53 of Deegan et al.

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Deegan et al. further do not explicitly disclose upgrade information comprising a type and version, and determining if the update package is compatible with the peripheral device based on the upgrade information, and further upgrading the software if the package is compatible. alSafadi et al. disclose a system for controlling reconfiguration and upgrading of software or other components of an electronic device, wherein the system checks the upgrade as well as various components for type and version so as to determine compatibility of the upgrade in the system. ("The invention ensures that upgrades are compatible with the configuration of a given device..." in col. 2 lines 55-57. Further, "the reconfiguration manager first determines whether the requested upgrade, in this case version 2.0 of component A, is compatible with other components of device X, i.e., version 2.3 of component B and version 2.0 of component C" in col. 4 lines 27-31. The upgrade is then performed or not performed given the result, as indicated in Figure 2.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the upgrade compatibility checking of alSafadi et al. with the firmware upgrading system of Deegan et al., as this would assist with avoiding problems associated with inconsistent upgrades, as noted by alSafadi et al. in col. 2 lines 57-58.

Regarding claim 26:

The rejection of claim 25 is incorporated, and further, claim 25 is rejected for the reasons set forth in connection with claim 2.

Regarding claim 27:

The rejection of claim 26 is incorporated, and further, claim 27 is rejected for the reasons set forth in connection with claim 3.

Regarding claim 28:

The rejection of claim 25 is incorporated, and further, claim 28 is rejected for the reasons set forth in connection with claim 5.

Regarding claims 29:

The rejection of claim 28 is incorporated, and further, claim 29 is rejected for the reasons set forth in connection with claims 6.

Regarding claim 31:

The rejection of claim 1 is incorporated, and further, Deegan et al discloses the upgrading of the internal software of the peripheral device occurring independently of a particular type of operating system on the client device as claimed (“since there is no operating system during the firmware upgrade...” in col. 7 lines 65-66. As there is no OS present during the upgrade, the upgrade is inherently independent of a particular type of operating system.)

7. Claims 8, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,055,632 to Deegan et al in view of U.S. Patent 6,070,012 to Eitner et al., further in view of U.S. Patent 6,467,088 to alSafadi et al., further in view of U.S. Patent 6,601,212 to Guha et al.

Regarding claim 8:

The rejection of claim 1 is incorporated, and further, neither Deegan et al, Eitner et al nor alSafadi et al teach sending a message indicating success or failure of the upgrade as claimed. Guha et al

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disclose in an analogous firmware upgrading system sending a message indicating success or failure to the client computer ("If an error is found, an error message will be sent to the client computer...if an error is not found, the peripheral device sends a download successful message to the client computer..." in col. 4 lines 16-30). It would have been obvious to someone of ordinary skill in the art at the time the invention was made to implement the message indication capabilities of Guha et al in the firmware upgrading system of Deegan et al modified by Eitner et al and alSafadi et al, implemented via the addition of instructional code to transmit messages, as this would ensure that the upgrade is completed successfully by enabling the host computer to attempt to resend the upgrade if a failed upgrade message is received in the system disclosed by Deegan et al. modified by Eitner et al. and alSafadi et al.

Regarding claims 17 and 24:

Claims 17 and 24 recite a system and article for performing the method of claim 8, and are rejected for the reasons set forth in connection with claim 8.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trenton J. Roche whose telephone number is (571) 272-3733. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trenton J Roche
Examiner
Art Unit 2193

TJR


KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100